ACCESSORY KIT INSTALLATION INSTRUCTIONS

ELECTRIC HEATER ACCESSORY - 4HK SERIES
FOR USE WITH THE FOLLOWING AIR HANDLER
MODELS: AHP / SHP / AV / SV / MA / MV

GENERAL

⚠WARNING

ELECTRICAL SHOCK HAZARD

Installation or repairs made by unqualified persons can result in hazards to you and others. Installation must conform with local building codes or, in the absence of local codes, with NAtional Electrical Code ANSI/NFPA 70-1996 or current edition.

The information contained in this manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.

Shut OFF electric power at unit disconnect and/or service panel before beginning the following procedures.

Failure to carefully read and follow all instructions in this manual can result in malfunction, property damage, personal injury, and/or death.

Verify edges of foil faced insulation are not in contact with any exposed electrical connections.

This instruction covers the physical installation of the following electric heaters with AHP18-60 & AV24-60 single piece air handlers and with MA24-60 & MV24-60 modular air handlers. Refer to unit instructions for electrical specifications.

These electric heat accessories are used for applications of cooling with electric heat and heat pump with electric heat. Each of the air handler unit models are approved for use with specific electric heat accessories. The Air Handler installation instructions, or name plate list the possible combinations and other important electrical data and limitations.

TABLE 1: Models Covered

4HK06500206	4HK165N1506
4HK16500206	4HK16501806
4HK06500506	4HK16502006
4HK16500506	4HK16502506
4HK06500806	4HK06501025
4HK16500806	4HK065N1525
4HK06501006	4HK06501525
4HK16501006	4HK06501825
4HK16501306	4HK16501825
4HK16501506	4HK16502525

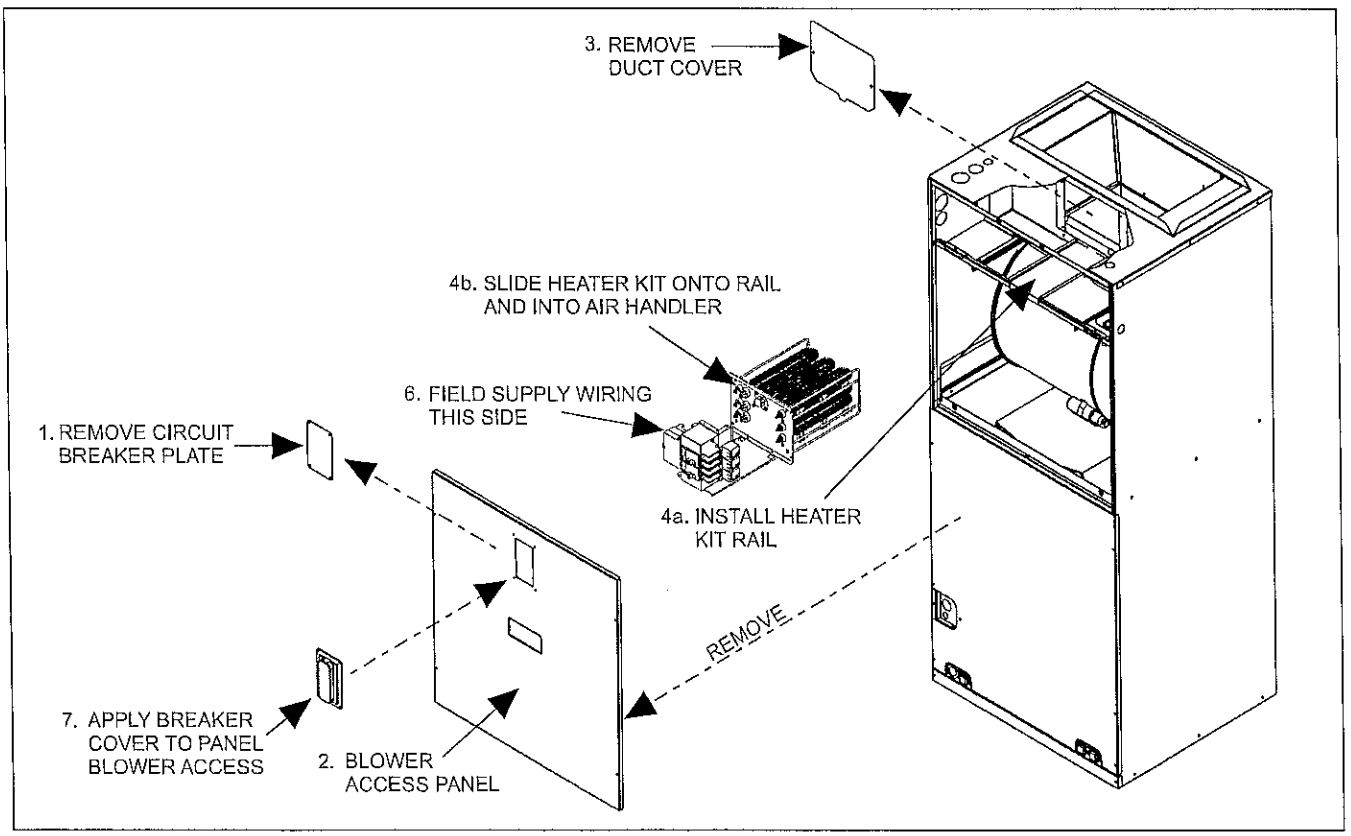
3. REMOVE DUCT COVER
4b. SLIDE HEATER KIT ONTO RAIL AND INTO AIR HANDLER
6. FIELD SUPPLY WIRING THIS SIDE
1. REMOVE CIRCUIT BREAKER PLATE
4a. INSTALL HEATER KIT RAIL
REMOVE
7. APPLY BREAKER COVER TO PANEL BLOWER ACCESS
2. BLOWER ACCESS PANEL

FIGURE 1: Heater Installation

INSTALLATION

Installation is the same for operating positions: upflow, downflow and horizontal right (Refer to Figure 1). If unit is installed in any of these positions, proceed to step number 2. Installation of the Heater Kit should be done prior to unit installation.

1. If Heat Kit has circuit breakers - remove circuit breaker panel from front of air handler unit.
2. Remove air handler blower access panel.
3. Remove duct cover from back panel of air handler control and wiring compartment.

NOTE: To Install some 15kw and all 18, 20 & 25 kw heat kits – Models - 4HK165 01506, 01806, 02006, & 02506: Knockouts on the Air Handler electric heat mounting panel must be removed. Refer to Figure 3.

⚠ CAUTION

To prevent damage, carefully pass the accessory heating element through the rectangular opening in the discharge duct. Element mounting plate must be secured with 4 screws.

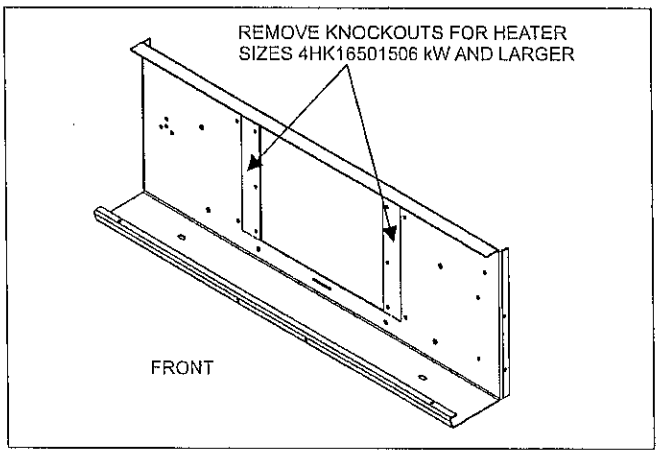

FIGURE 2: Heater Knockouts

4. Install electric heat accessory.
   a. Install Slide Rail from Heat Kit into control area of Air Handler. Insert tab on rail into slot in Air Handler panel and attach to Air Handler front rail with screw. Insure slide rail does not interfere with wiring running under the rail.
   b. Slide Heat Kit onto rail and install into Air Handler heater chute – until heat element mounting plate is firmly seated against back panel on the air handler. To allow additional access area during installations the control board can be rotated. By removing one screw at the base of the control board bracket, the board/bracket can then rotate around the screw remaining in the slotted base.
   c. Align holes and fasten the Heat Kit to the air handler unit with 4 screws.
5. Connect the Heat Kit's 6 pin socket connector to the appropriate connector on the control board. The end terminals are "D" shaped to ensure polarization of the connector.
6. Insure position of the control board Heat Enable Jumper - the Heat Enable Jumper must be in the HEAT position.
7. Connect the Air Handler power supply wiring leads to the leads supplied on the heat kit using wire nuts provided in the heat kit.
8. For kits with circuit breakers, cut blower access panel insulation along foil perforations behind the circuit breaker plate and remove - to open the area for the circuit breakers to protrude through the front access panel and to provide clearance for circuit breakers and single point wiring entry kit. Replacement non-foil faced insulation for the exposed front panel may then need to be added.

⚠WARNING

Verify edges of foil faced insulation are not in contact with any exposed electrical connections.

9. For kits with circuit breaker installed, apply circuit breaker cover to outside of air handler blower access door. Clean area around hole in panel prior to applying cover seal.
10. Mark an X in the appropriate box on the indoor unit data plate for the particular heater installed.

NOTE: All wiring must comply with local and national electrical code requirements. Read and heed all unit caution labels.

For Horizontal Left

If the Air Handler unit is to be operated in a horizontal left hand application (refer to Figure 4) and has a Heat Kit with circuit breakers, perform steps below, to insure circuit breaker handles will be in the up position when "On" after installation. Refer to Air Handler Installation Instructions. Modifications to this Accessory Heat Kit and installation of the Heat Kit should be done prior to unit installation.

This procedure should be performed on the heat kit before it is installed in the unit and before any field power wiring is applied or unit is placed in operation.

a. Remove the 3 screws that attach the circuit breaker bracket to the heat kit.
b. Rotate the circuit breaker(s) with bracket assembly 180° and re-attach to the heat kit with the 3 screws removed previously.
c. Apply 45 ft/lb torque to all wiring connections.
d. Verify all spade and plug wiring connections are secure.
e. Verify that when kit is installed in unit for horizontal application, circuit breaker handle(s) will be up when breaker is in the "On" position.

Proceed with standard installation above with steps 1-9.

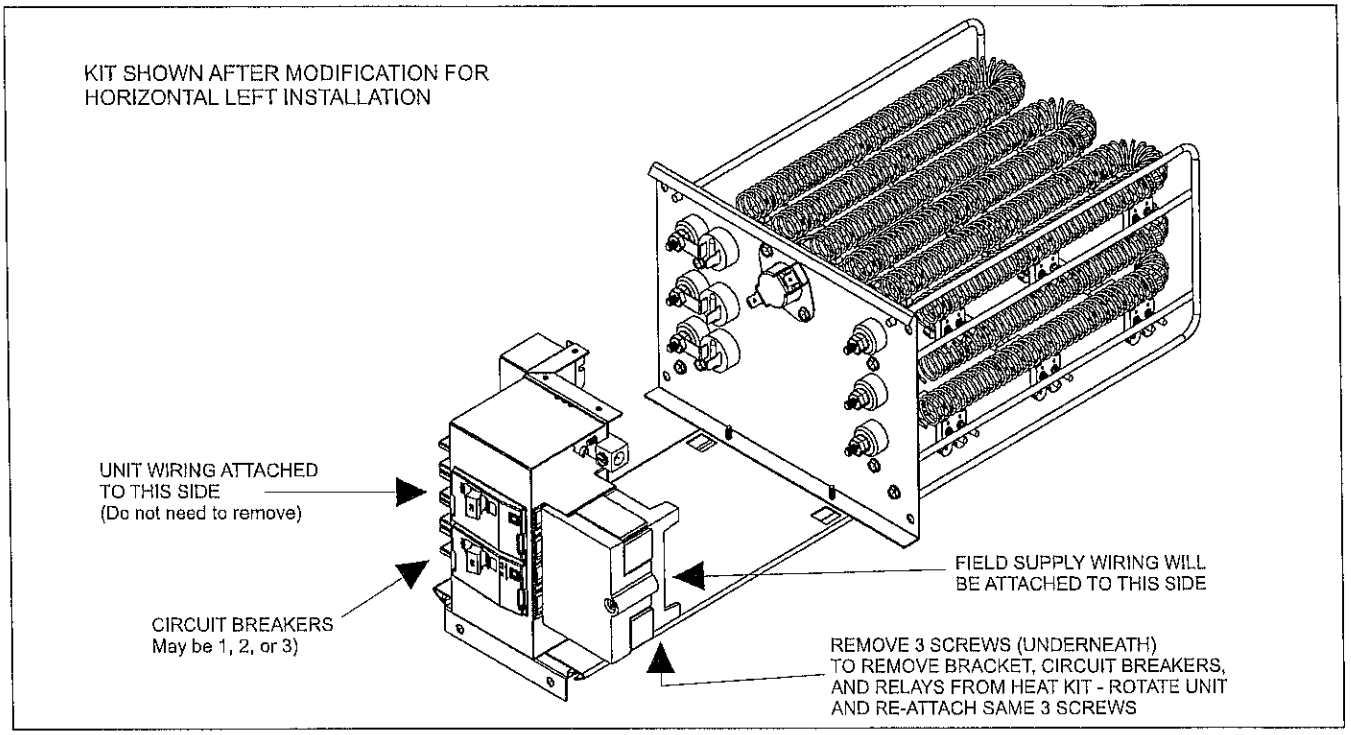
KIT SHOWN AFTER MODIFICATION FOR
HORIZONTAL LEFT INSTALLATION
UNIT WIRING ATTACHED
TO THIS SIDE
(Do not need to remove)
CIRCUIT BREAKERS
May be 1, 2, or 3)
FIELD SUPPLY WIRING WILL
BE ATTACHED TO THIS SIDE
REMOVE 3 SCREWS (UNDERNEATH)
TO REMOVE BRACKET, CIRCUIT BREAKERS,
AND RELAYS FROM HEAT KIT - ROTATE UNIT
AND RE-ATTACH SAME 3 SCREWS

FIGURE 3: Modification for Horizontal Left Applications

LINE POWER CONNECTIONS

Power may be brought into the unit through the outlet air end of the unit (top left when unit is vertical) or the left side panel. To minimize air leakage, seal the field wiring entry point.

Field wiring connects to heat kits with circuit breaker or terminal block. A ground lug is also provided on the kits.

Connect the Air Handler power supply wiring leads to the leads supplied on the heat kit using wire nuts provided in the heat kit.

ELECTRIC HEATERS & OPERATING CONTROLS

The low voltage transformer and the fan / heater control are standard on all models. The air handlers are shipped prewired to operate as cooling only applications.

To operate these units with electric heat, it is necessary to field install an electric heater kit (4HK). Prior to installing electric heat, it is necessary to perform the following procedure:

1. Verify position of heat enable jumper, on the control board - is in the Heat position when electric heat kit is installed.
2. Verify heat kit 6 socket plug is seated in control board.

LOW VOLTAGE CONTROL CONNECTIONS

The 24 volt power supply is provided by an internally wired low voltage transformer which is standard on all air handler models. Field supplied low voltage wiring can exit the unit on the top right hand corner or the right hand side panel. Refer to Figure 1. Remove desired knockout and pierce foil faced insulation to allow wiring to pass through. Use as small of a hole as possible to minimize air leakage. Install a 7/8" plastic bushing in the selected hole and keep low voltage wiring as short as possible inside the control box. To further minimize air leakage, seal the wiring entry point at the outside of the unit. The field wiring is to be connected at the screw terminals of the control board.

NOTE: All wiring must comply with local and national electrical code requirements. Read and heed all unit caution labels.

NOTE: It is possible to vary the amount of electric heat turned on during the defrost cycle of a heat pump. Standard wiring will only bring on the first stage of electric heat during defrost. See Heat Output and Limit Connections & Table 6 for additional information on heat during defrost cycle.

NOTE: *For blower speed connections, electrical information and wiring diagrams, see indoor unit installation instructions.*

NOTE: The electric heaters have a temperature limit control. If failure occurs, this limit control must be replaced with a direct replacement.

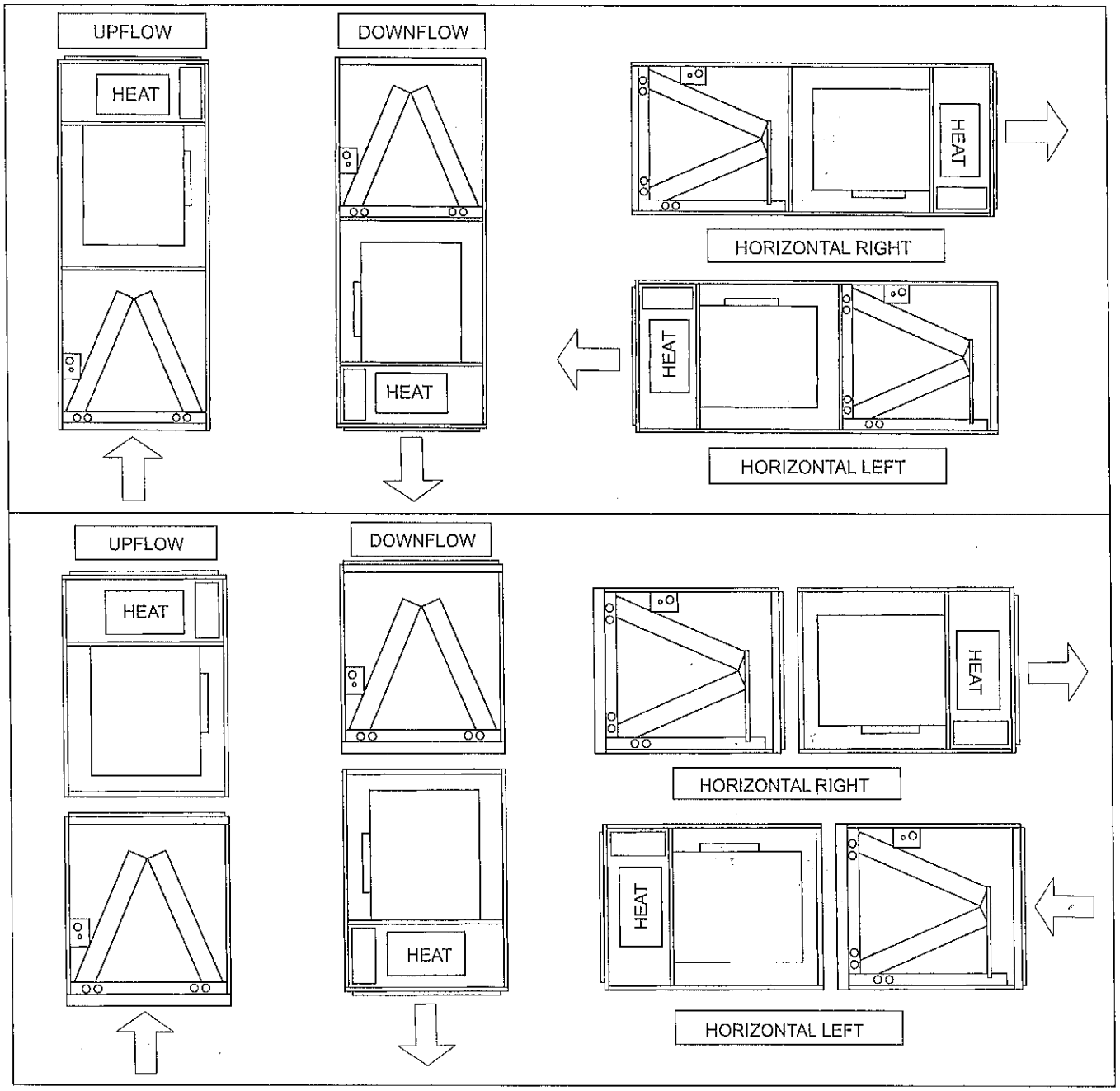

FIGURE 4: Typical Installed Application

NOTE: Field modification of heat kit required prior to use in horizontal left application.

Subject to change without notice. Printed in U.S.A.
Copyright © by York International Corp. 2007. All rights reserved.

171053-UAI-E-0307
Supersedes: 171053-UAI-D-0107